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Please find below and/or attached an Office communication concerning this application or proceeding.

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/607,603
Filing Date: June 27, 2003
Appellant(s): RICHARDSON ET AL.

MAILED
AUG 01 2007
GROUP 1700

John F. Buckert
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 06/19/07 appealing from the Office action mailed 02/13/06.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

WO 01/17048	Nagai	08-2001
6,720,103	Nagai	04-2004
JP 06-96783	Uchida	08-1994

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2004/0053099

Franklin et al.

03-2004

6,231,053

Wakamatsu

05-2001

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Appellant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
3. Claims 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over the WO 01/17048 publication (hereinafter referred to as "*Nagai*") (*Note: US patent 6720103 to Nagai has been herein employed and cited as it belongs to the same family patent of WO'048 publication and was published in English language*) in view of Wakamatsu 6231053.

Nagai discloses a fuel cell (TITLE). In this respect, Nagai discloses a fuel cell assembly comprising pair of counter-posed gasket sheets 6 and 7 supporting an MEA (*membrane electrode*

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assembly) (ABSTRACT). Nagai discloses the use of two integrated members of gasket sheets being counterposed to each other so that the gasket can face each other, and the extruded peripheral part of an electrolyte membrane is inserted into between the inner peripheral pinching parts of the frame-shaped gasket sheets (COL 4, lines 3-15). *Thus, the region where the electrolyte membrane is inserted constitutes the opening.*

Nagai describes how an MEA is supported by the gasket sheets (COL 4, lines 3-30); and the fuel cell stack (COL 3, lines 12-18). *Thus, Nagai envisions using the gasket sheets to contact or directly face a fuel cell stack component.*

Nagai also discloses that spacer sheet 5a is inserted between the gasket sheets (COL 4, lines 10-15). Thus, MEA is supported by the gasket sheets through spacer 5a and hence, MEA can be easily and accurately positioned while keeping the specific pressure constant (COL 4, lines 20-30).

Nagai discloses that in Figure 2 the inner edge parts 6a, 7a, and underformed parts of the counterposed gasket sheets 6b-7b and 6c-7c are welded together (COL 4, lines 40-53). *Thus, Nagai's gasket sheet are bonded. Examiner's note: the limitation "diffusion bonded" is being construed as product-by-process claims and therefore the product itself does not depend on the process of making it. Accordingly, in a product-by-process claim, the patentability of a product does not depend on its method of production. In that, it is further noted that the product in the instant claims is the same as or obvious over the product of the prior art. In re Brown 173 USPQ 685 and In re Fessman 180 USPQ 324 (Refer to MPEP 2113: Product-by-Process Claims).*

Figure 2 below depict the specific structure of a fuel cell unit including the gasket body formed by sheets 6 and 7 and comprising planar and non-planar regions. As evident from Figure

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2 below, spacer 5a is inserted between gasket sheets 6 and 7 and an empty space is formed therebetween. *That empty space is considered to constitute an air hole. Thus, the gaskets also form the gas-filled pillow structure for sealing the joint therebetween (←Emphasis supplied).*

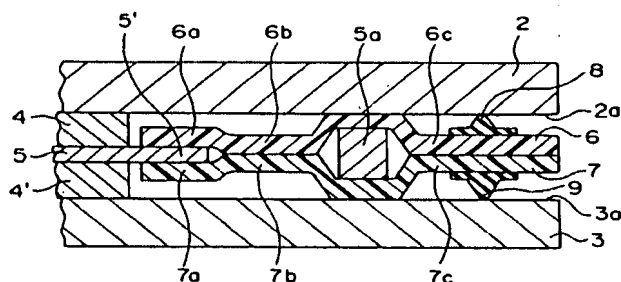


Fig. 2

Nagai discloses a fuel cell structure as seen and described supra. Nevertheless, the preceding prior art reference does not expressly disclose the specific metal sheets.

Wakamatsu discloses a gasket for fuel cells including a gasket body composed of a metal sheet (ABSTRACT) which is subject to bonding (ABSTRACT).

With these teachings, it would have been obvious to a skilled artisan at the time the invention was made to use the specific metal sheets of Wakamatsu as the gasket material in the fuel cell of Nagai because Wakamatsu teaches that the specific metal sheets when used as gasket precludes generation of contaminants such as ions, by the reaction of working fluids with material constituting the gasket body, thereby allowing high generating efficiency of the fuel cell. In addition to that, Wakamatsu discloses that such specific metal sheets effectively support the electrolytic membrane sheet in a narrow region and seals working gasses and fluids. It also permits to have the functional requirement of maintaining a constant distant between the two adjacent plates, a high level of hermetic or low permeation sealing, precluding evaporation of water and drying of the polymer electrolyte membrane and easy assembly and disassembly.

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Also, another advantage is that the change in the membrane's thickness caused by the pressure of the working liquid or fuel gas or temperature can be effectively absorbed by the sealing section of the specific metal sheet.

4. Claims 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over the WO 01/17048 publication (hereinafter referred to as "*Nagai*"). (*Note: US patent 6720103 to Nagai has been herein employed and cited as it belongs to the same family patent of WO'048 publication and was published in English language*) in view of the Japanese publication 06-96783 (herein called '*the JP'783*').

Nagai discloses a fuel cell (TITLE). In this respect, Nagai discloses a fuel cell assembly comprising pair of counter-posed gasket sheets 6 and 7 supporting an MEA (*membrane electrode assembly*) (ABSTRACT). Nagai discloses the use of two integrated members of gasket sheets being counterposed to each other so that the gasket can face each other, and the extruded peripheral part of an electrolyte membrane is inserted into between the inner peripheral pinching parts of the frame-shaped gasket sheets (COL 4, lines 3-15). *Thus, the region where the electrolyte membrane is inserted constitutes the opening.*

Nagai describes how an MEA is supported by the gasket sheets (COL 4, lines 3-30); and the fuel cell stack (COL 3, lines 12-18). *Thus, Nagai envisions using the gasket sheets to contact or directly face a fuel cell stack component.*

Nagai also discloses that spacer sheet 5a is inserted between the gasket sheets (COL 4, lines 10-15). Thus, MEA is supported by the gasket sheets through spacer 5a and hence, MEA

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can be easily and accurately positioned while keeping the specific pressure constant (COL 4, lines 20-30).

Nagai discloses that in Figure 2 the inner edge parts 6a, 7a, and underformed parts of the counterposed gasket sheets 6b-7b and 6c-7c are welded together (COL 4, lines 40-53). *Thus, Nagai's gasket sheet are bonded. Examiner's note: the limitation "diffusion bonded" is being construed as product-by-process claims and therefore the product itself does not depend on the process of making it. Accordingly, in a product-by-process claim, the patentability of a product does not depend on its method of production. In that, it is further noted that the product in the instant claims is the same as or obvious over the product of the prior art. In re Brown 173 USPQ 685 and In re Fessman 180 USPQ 324 (Refer to MPEP 2113: Product-by-Process Claims).*

Figure 2 below depict the specific structure of a fuel cell unit including the gasket body formed by sheets 6 and 7 and comprising planar and non-planar regions. As evident from Figure 2 below, spacer 5a is inserted between gasket sheets 6 and 7 and an empty space is formed therebetween. That empty space is considered to constitute an air hole. Thus, the gaskets also form the gas-filled pillow structure for sealing the joint therebetween (←Emphasis supplied).

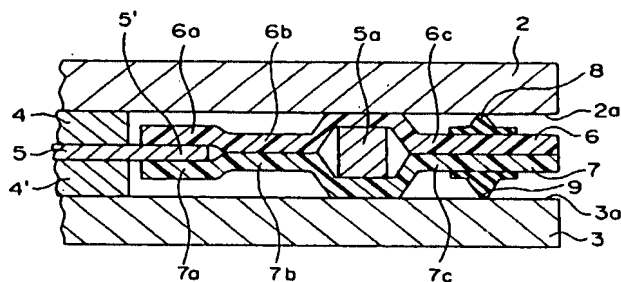


Fig. 2

Nagai discloses a fuel cell structure as seen and described supra. Nevertheless, the preceding prior art reference does not expressly disclose the specific metal sheets.

The JP'783 makes known the use of metal sheets as gaskets for better sealing in fuel cells (ABSTRACT).

In view of the aforementioned disclosures, it would have been obvious to a skilled artisan at the time the invention was made to use the specific metal sheets of the JP'783 as the gasket material in the fuel cell of Nagai because the JP'783 teaches that gaskets of metal sheets are used for better sealing in fuel cell. Thus, the JP'783 directly teaches the use of metal sheets as gaskets for the benefit of obtaining improved sealing characteristics in fuel cells.

5. Claims 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over the WO 01/17048 publication (hereinafter referred to as "*Nagai*"). (*Note: US patent 6720103 to Nagai has been herein employed and cited as it belongs to the same family patent of WO'048 publication and was published in English language*) in view of Franklin 2004/0053099.

Nagai discloses a fuel cell (TITLE). In this respect, Nagai discloses a fuel cell assembly comprising pair of counter-posed gasket sheets 6 and 7 supporting an MEA (*membrane electrode assembly*) (ABSTRACT). Nagai discloses the use of two integrated members of gasket sheets being counterposed to each other so that the gasket can face each other, and the extruded peripheral part of an electrolyte membrane is inserted into between the inner peripheral pinching parts of the frame-shaped gasket sheets (COL 4, lines 3-15). *Thus, the region where the electrolyte membrane is inserted constitutes the opening.*

Nagai describes how an MEA is supported by the gasket sheets (COL 4, lines 3-30); and the fuel cell stack (COL 3, lines 12-18). *Thus, Nagai envisions using the gasket sheets to contact or directly face a fuel cell stack component.*

Nagai also discloses that spacer sheet 5a is inserted between the gasket sheets (COL 4, lines 10-15). Thus, MEA is supported by the gasket sheets through spacer 5a and hence, MEA can be easily and accurately positioned while keeping the specific pressure constant (COL 4, lines 20-30).

Nagai discloses that in Figure 2 the inner edge parts 6a, 7a, and underformed parts of the counterposed gasket sheets 6b-7b and 6c-7c are welded together (COL 4, lines 40-53). *Thus, Nagai's gasket sheet are bonded. Examiner's note: the limitation "diffusion bonded" is being construed as product-by-process claims and therefore the product itself does not depend on the process of making it. Accordingly, in a product-by-process claim, the patentability of a product does not depend on its method of production. In that, it is further noted that the product in the instant claims is the same as or obvious over the product of the prior art. In re Brown 173 USPQ 685 and In re Fessman 180 USPQ 324 (Refer to MPEP 2113: Product-by-Process Claims).*

Figure 2 below depict the specific structure of a fuel cell unit including the gasket body formed by sheets 6 and 7 and comprising planar and non-planar regions. As evident from Figure 2 below, spacer 5a is inserted between gasket sheets 6 and 7 and an empty space is formed therebetween. *That empty space is considered to constitute an air hole. Thus, the gaskets also form the gas-filled pillow structure for sealing the joint therebetween (←Emphasis supplied).*

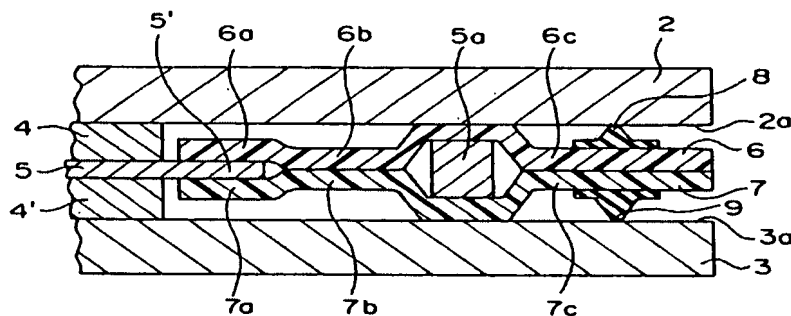


Fig. 2

Nagai discloses a fuel cell structure as seen and described supra. Nevertheless, the preceding prior art reference does not expressly disclose the specific metal sheets.

Franklin et al disclose a fuel cell comprising a gasket comprising a plastic polymer material, an elastomeric material, a composite material, a metal or combinations thereof (CLAIMS 10 and 22).

In view of the above, it would have been obvious to one skilled in the art at the time the invention was made to use the specific metal gasket material of Franklin et al in the gasket of Nagai as Franklin et al teach the such metal gasket material allows for suitable electrical and mechanical contact. Thus, gaskets made of metallic materials incorporate metallic elements which provide satisfactory mechanical integrity while also furnishing electrically conducting characteristics complying with the electrical requirement of fuel cell configurations.

6. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over either:
- a) the WO 01/17048 publication (hereinafter referred to as “*Nagai*”) in view of Wakamatsu 6231053; and/or

b) the WO 01/17048 publication (hereinafter referred to as “*Nagai*”) in view of the Japanese publication 06-96783 (herein called ‘*the JP*’783’); and/or

c) the WO 01/17048 publication (hereinafter referred to as “*Nagai*”) in view of Franklin 2004/0053099 as applied to claim 5 above, and further in view of Inagaki et al 2003/0150162.

Nagai-Wakamatsu and/or Nagai-the JP’783 and/or Nagai-Franklin are applied, argued and incorporated herein for the reasons above. However, the preceding prior art does not expressly disclose the specific vehicle.

Inagaki et al disclose a seal arrangement for fuel cells including a seal portion in the form of a gasket (ABSTRACT/SECTIONS 0010-0012). In particular, it is disclosed that seal arrangement is employed in a solid polymer electrolyte fuel cell, which is installed in, a fuel cell vehicle, but may be used in other applications (SECTION 0028).

In view of the above, it would have been obvious to one skilled in the art at the time the invention was made to use the fuel cells of Nagai-Wakamatsu and/or Nagai-the JP’783 and/or Nagai-Franklin in vehicles as Inagaki et al disclose that fuel cell arrangement using gasket elements are installed in vehicles among other applications. Particularly, fuel cells are electrochemical apparatus capable of generating electrical energy through chemical conversion, and thus, such generated energy is effectively employed in power consuming vehicles.

(10) Response to Argument

All of the arguments raised by the Appellant in the Appeal Brief dated 06/19/07 have been thoroughly considered and examined by the Examiner but they are still unpersuasive.

As an initial matter, reference US 6720103 to Nagai is an English equivalent version of WO 01/17048 publication. US patent '103 has been employed and cited as it belongs to the same family patent of WO'048 publication and was published in English language.

At the outset, the examiner wishes to emphasize that the principal difference between the combined prior art and appellant's invention is based upon the construction material of the claimed gasket. From a technical perspective, appellant's gasket and the gasket of the prior art are structurally and functionally the same. There is no significant distinction between the structure and function of appellant's gasket as instantly appealed and the prior art gasket. For instance, appellant's gasket is formed of sheet metal elements while the gasket of the primary reference (i.e. Nagai) is made of elastic resin sheets. To fill the voids of the primary reference for not disclosing gasket sheet metal elements, three (3) secondary references, each one showing gasket bodies made of or composed of a metal sheet for fuel cells, have been combined separately with the primary reference to advance the well-stated prima-facie case of obviousness as set forth supra. In summary, the gasket feature of primary reference Nagai is structurally and functionally the same as appellant's claimed gasket but their construction materials are different. There is no dispute that the gasket material of appellant's gasket (i.e. sheet metal elements) is different from the gasket material of the primary reference Nagai (i.e. elastic resin sheets). However, such a difference is alleviated by the teachings of three (3) secondary references disclosing the following: 1) Wakamatsu'053 discloses that it is known to use gaskets for fuel cells made of metal sheets which are subject to bonding for the disclosed benefits; 2) JP'783 discloses that it is known to employ metal sheets as gasket for better sealing in fuel cells; and 3)

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Franklin'009 reveals that gasket comprising metals are suitable for fuel cells for the disclosed benefits. The foregoing is essentially the substance of the principal issue under contention.

Additionally, other issues of minor impact have been raised by the appellant. Among these issues is the significant consideration given by the appellant to the stainless steel spacer 5a and the reason why it is employed by Nagai. All points considered, the examiner is of the well-educated opinion that:

a) applicant's transitional term "*comprising*" (see claim 5, line 1) does not exclude the presence of such a spacer in the pillow open space formed by gasket members 6 and 7 of Nagai. Thus, there is nothing wrong about having or not having included therein the spacer; and

b) upon substitution of Nagai's elastic resin sheets for the sheet metals of either Wakamatsu'053, the JP'783 or Franklin'009 as presented in the prima-facie case of obviousness, there is no need to have spacer 5a therein because gasket members made of metal sheets would definitely serve the same purposes of spacer 5a. In this respect, Nagai teaches that spacer 5a which is made of a metal material such as "*stainless steel*" (Nagai at Col 4, lines 55-57) is placed therein to "*keep the specific pressure constant*" (Nagai at Col 4, lines 20-27) and "*to maintain separators at a constant distance, thereby preventing MEA of fragile materials from breaking*" as argued by the appellant in the present appeal brief. Following this line, the point that appellant appears to be missing is that once the gasket metal sheets of any one of Wakamatsu'053, the JP'783 or Franklin'009, replaces the gasket resin sheet of Nagai, the employment of spacer 5a in the Nagai becomes unnecessary because the gasket metal sheets of Wakamatsu'053, the JP'783 or Franklin'009 should also exhibit the same hardness, strength, or mechanical properties as the metal (stainless steel) spacer 5a of Nagai. On one hand, if stainless steel spacer 5a along with the

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resin sheets of Nagai is completely substituted for any of the gasket sheet metal of the secondary references, the resulting gasket structure would exhibit the same or better degree of hardness, strength or rigidity. This is because the substituted gasket sheet metal would have the same effect that stainless steel spacer 5a has in the fuel cell assembly of Nagai. Actually, there is no need to keep using spacer 5a because the substituted gasket sheet metals are strong enough to achieve the same functionality of metal (stainless steel) spacer 5a which is to “*keep the specific pressure constant*” and “*to maintain separators at a constant distance, thereby preventing MEA of fragile materials from breaking*”. On the other hand, if stainless steel spacer 5a is not removed from Nagai’s gasket structure but gasket resin sheets of Nagai are replaced with the gasket metal sheets of any one of Wakamatsu’053, the JP’783 or Franklin’009 so that the resulting gasket structure comprises the gasket metal sheets of Wakamatsu’053, the JP’783 or Franklin’009 along with the spacer 5a, then more mechanical stability would be achieved as the metal gasket sheets and the metal spacer 5a, in combination, would provide further structural integrity and mechanical support to the resulting fuel cell assembly. Thus, either way, having or not having spacer 5a does not alter or affect the final resulting gasket structure as the substituted gasket metal sheets would take care of the functional purpose served by spacer 5a.

Appellant has argued that “*The spacer 5a is a critical component of Nadia necessary to maintain a constant distance between separators 2*” and “*the spacer 5a in Nadia defines the gap between the adjacent components and is formed of solid metal. Because of the metal spacer, the air spaces are nonfunctional*” and “*Because of the spacer, Nadia does not have a pillow structure, and nothing in Nadia would suggest to eliminate the metal spacer to allow the space to act as a pillow structure*”. First, the examiner contends that the transitional language recited in

the present claims “comprising” is an open-ended clause and does not exclude the inclusion of additional features or members. Thus, appellant’s arguments pointing that the pillow structure of Nagai does not meet the claimed requirement of appellant’s pillow structure because Nagai’s structure does include a spacer between the adjacent components have little merit in view of the open-ended language allowing the incorporation of more features or components. Furthermore, the examiner indicated in the previous office action that the empty spaces located at both opposite sides of the spacer fully meet the requirement of “a gas-filled chamber enclosed with said first and second sheet metal elements”. In simple terms, the two empty spaces therein compensate for the claimed gas-filled chamber. Additionally, note that the present claims does permit the gas-filled chamber to include additional components/elements; and does not require that the gas-filled chamber be entirely filled of air, that is to say, the chamber filled only with air. Thus, it is noted that Nagai’s pillow structure provides the necessary functional and structural interrelationship to satisfy the claimed requirements.

Another issue of minor impact includes applicant’s apparent argument that the limitation “*pillow structure defining a gas-filled chamber enclosed with said first and second sheet metal elements*” is not fully met because spacer 5a occupies certain volume space in Nagai’s gasket structure. In reply, to the extent that applicant’s invention is directed toward having the pillow structure fully or completely filled with gas, there is nothing in the recited limitations calling for that. Only requirement is that chamber is filled with gas regardless of whether there is or there is no other element or member in the chamber formed by the pillow structure. Therefore, as shown in Figure 2 of Nagai, there are empty or air (gas) filled spaces on the left side and right side of spacer 5a assuming arguendo that spacer 5a is not removed upon substitution of the gasket resin

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sheets for the gasket metal sheets. If spacer 5a is then removed upon substitution of the gasket resin sheets for the gasket metal sheets, then, that space would be empty or air-gas filled. Note that there is no disclosure in Nagai about using vacuum techniques for bonding his gasket sheets. Thus, it is reasonable to conclude that such space is filled with air (gas). In further support, as previously mentioned, it is imperative to note that applicant's transitional term "*comprising*" (see claim 5, line 1) does not exclude the presence of such a spacer in the pillow open space formed by gasket members 6 and 7 of Nagai. Thus, there is nothing wrong about having or not having included therein the spacer in view of the broadly intended/all-inclusive invention of applicant.

Yet another issue of minor impact is applicant's arguments that the limitation "*diffusion bonded*" offers patentable distinction to the claimed invention. In this regard, it is to be noted that Nagai largely discloses that his gasket sheets 6b-7b and 6c-7c are welded together (COL 4, lines 45-50/ COL 4, lines 9-11/ COL 4, lines 61-64/ COL 5, line 65 to COL 6, line 2 and the like). Thus, Nagai fully contemplates and directly teaches having his two gasket members 6-7 bonded together by welding. From a structural point of view, having gasket members 6-7 welded together is the same as having them bonded as welding is a well-known technique used in the bonding art to bond or join elements together. Further, Nagai's welding technique is also fully applicable to metal components for the purposes of bonding. Welding is used in the metallurgical field for bonding metals together. Thus, Nagai's technique is not inapplicable to metals; and could be used to bond the gasket metal sheets of Wakamatsu'053, the JP'783 or Franklin'009 once they are substituted. With particular respect to the "diffusion" limitation and its implication, the examiner remarkably and clearly indicated in the Examiner's Note (see body of the rejection *supra*) that the limitation "*diffusion bonded*" was construed as product-by-process limitation, and

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therefore the product itself does not depend on the process of making it. Accordingly, in a product-by-process claim, the patentability of a product does not depend on its method of production. In that, it is further noted that the product in the instant claims is the same as or obvious over the product of the prior art. In re Brown 173 USPQ 685 and In re Fessman 180 USPQ 324 (Refer to MPEP 2113: Product-by-Process Claims).

Concerning the product-by-process limitation, determination of patentability of a product-by-process claim is based on the scope of the product itself. Regardless how broadly or narrowly a product-by-process claim is construed, a product-by-process claim is always to a product, not a process. Therefore, those process steps fail to further limit the structure of the end product or only induce a minor or obvious structural difference to the end product.

"[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product by process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe 777 F.2d 695, 698, 227 USPQ 964,966 (Fed Cir. 1985) and MPEP 2113.

35 U.S.C. 102 and 103 rejections for product-by-process claims are supported by the courts. With respect to the anticipation part of this 102/103 rejection, the applied reference needs only to "substantially" meet the structure of the end product. With respect to the obviousness part, the rejection does not have to identify the difference between the claimed and the prior art products, nor provide any motivation reason. With respect to process steps that impart a structure that is only slightly different from a prior art product made by another process, it has been held in many court decisions that such product-by-process claim is obvious over the prior art product process even though the process is novel or unobvious.

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"We are therefore of the opinion that when the prior art discloses a product which reasonably appears to be either identical with or only slightly different than a product claimed in a product-by-process claim, a rejection based alternatively on either section 102 or section 103 of the statute is eminently fair and acceptable." In re Brown, 459 F.2d 531, 535, 173 USPQ 685, 688 (CCPA 1972)

As a result, the process steps of a product-by-process claim do not impart any significant property or structure to the claimed end product. And, if there is any difference, the difference would have been minor and obvious. Therefore, the present claims are unpatentable over a reference that satisfies the claimed compositional or physical or property or structural limitations, and/or a reference that discloses a product made by a process that reasonably substantially comprises every limitation of the claimed process.

In rejecting a product-by-process claim, the Patent Office does not bear the burden of proof:

"The Patent Office bears a lesser burden of proof in making out a case of prima facie anticipation/obviousness for product-by-process claims because of their peculiar nature" than when a product is claimed in the conventional fashion. (MPEP 2113 [R-1]). In re Fessmann, 489 F.2d 742, 744 180 USPQ 324, 326 (CCPA 1974)

In consequence, once a product appearing to be substantially identical is found and a 35 U.S.C. 102 or 103 rejection made, the burden shifts to the applicant to show an unobvious difference (MPEP 2113 [R-1])

"Patent and Trademark Office can require applicant to prove that prior art products do not necessarily or inherently possess characteristics of his claimed product where claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes." In re Best, 195 USPQ 430 (CCPA 1977).

(emphasis added→) Since applicant has not come forward with objective evidence showing that the product of prior art has, in fact, a significantly different structure or property

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and/or characteristic, it is reasonable to conclude that the prior art product would inherently possess the structure, properties or characteristics recited in the claimed invention.

Applicant is kindly reminded that an argument that the applied reference fails to meet all the claimed process steps of making the product does NOT overcome a proper rejection of a product-by-process claim because the reference needs only to *substantially* meet the structure of the end product. After a *prima facie* case of unpatentability has been made, the burden is shifted to Applicants. In order to overcome the rejection, applicant needs to show that the claimed process imparts unexpected property or structure to the end product that renders the structure product patentably distinct from the prior art's. *Ex parte Gray, 10 USPQ2d 1922 (BPAI 1989)*. *See also MPEP 2113*. Additionally, when the structure recited in the reference is substantially identical to that of the claims, claimed properties or functions are presumed to be inherent. MPEP 2112.02.

In response to appellant's argument that the references fail to show certain features of appellant's invention, it is noted that the features upon which appellant relies (i.e., a) "*the structure is hard and is neither soft nor compressible nor any other property attributable to a pillow*"; b) "*forming a tight seal, and second to compensate for variations in the load during operation*"; c) "*Appellant's assembly is adapted for higher operating temperatures than polymeric gaskets*"; d) "*The combination of the gas-filled chamber and the diffusion bonding creates a hermetic seal*") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In response to appellant's argument that: a) *"The spacer is a critical component of Nadia necessary to maintain a constant distance between the separators 2 and 3"*; and b) *"Appellant's invention is uniquely able to avoid the problems of a solid metal spacer across the gap..., and to eliminate polymeric materials that tend to degrade at the elevated operating temperature"*, the fact that appellant has recognized another advantage/disadvantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

In response to appellant's arguments that: a) *"the assemblies in both Nadia and Wakamatsu require elastomeric material between the metal and the adjacent components"*; b) *"If the sheets in Nadia were replaced with metal, the gap would be bridged by solid metal"*; c) *"The skilled practitioner, ... is not lead to replace the elastomeric sheet in Nadia with metal..."*; d) *"Thus, JP'783, like Nadia, forms a gasket with non-metallic material in contact with the adjacent components. Even if combined, JP'783 does not leas the practitioner to replace the polymer sheets with metal sheets"*, e) *"Franklin et al is applied to show a gasket for a fuel cell that includes a plastic polymer material, an elastomeric material, a composite material, a metallic material, a foam material, or combinations thereof"*, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. (*Emphasis supplied*→) Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). The examiner recognizes that obviousness can only be

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established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). Moreover, as stated earlier, the language of the present claims calls for open-ended transitional terms/phrases "comprising". As such, as long as the combination of Nagai and Wakamatsu does teach or disclose the use of the metal sheet elements for gasketing purposes in the fuel cell assembly, and absent further exclusionary proviso or language limiting the present claims not to include additional elements such as elastomeric materials therebetween, the examiner avers that the above-mentioned combination of Nagai and Wakamatsu does exhibit substantially the same pillow structure, in terms of configuration and functionality, as appellant's pillow structure. Additionally, the combination of Nagai and Wakamatsu does envision the formation and creation of a pillow structure having the same structure and material components as the pillow structure of the appellant; and furthermore, the combination of Nagai and Wakamatsu does lead a skilled artisan to embody and envision a pillow structure having metal sheet elements and a gas-filled chamber as instantly claimed.

In response to appellant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Last but not least, responsive to applicant's arguments that there is no specific suggestion or teaching in the references to combine prior art, the examiner responds that a decision of

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Supreme Court in *KSR International Co. v. Teflex Inc.*, 550 US, 82 USPQ2d 1385 (2007)

forecloses the argument that a specific teaching, suggestion or motivation is required to support a finding of obviousness. See also recent Board decision *Ex Parte Smith*, USPQ2d, slip op. at 20 (Bd. Pat. App. & Interf. June 25, 2007) citing *KSR*, 82 USPQ2d at 1396.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained and affirmed.

Respectfully submitted,

Raymond Alejandro



Conferees:

Pat Ryan

William Krynski

